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ABSTRACT

This study compared teachers' assumptions about students and effective teaching practices in low and high poverty schools. Attitudes, beliefs, perceptions and classroom practices of 476 teachers in 24 urban and suburban elementary schools throughout the United States were assessed with teacher questionnaires and classroom observations during a single school year. The data indicated that teachers in schools serving students from economically-disadvantaged backgrounds put greater emphasis on teacher authority and control and less on student autonomy and "constructivist" approaches than those in other schools. The findings confirmed earlier studies in showing that students in poor communities generally receive less engaging kinds of education (such as cooperative learning) and that teachers in such schools see the school climate as less positive and stimulating and themselves as having less influence. Teachers at these schools also were less trusting of students and more skeptical about their abilities. Teachers' beliefs were generally consistent with their practices, even when school poverty level and students' mean achievement levels were statistically controlled. Five data tables are attached. (Contains 24 references.) (Author/ND)

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Teacher Beliefs and Practices in Schools Serving Communities that Differ in Socioeconomic Level

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ABSTRACT

Attitudes, beliefs, perceptions and classroom practices of teachers in 24 urban and suburban elementary schools throughout the United States were assessed with teacher questionnaires and classroom observations during a single school year. Teachers in schools serving students from economically-disadvantaged backgrounds put greater emphasis on teacher authority and control and less on student autonomy and "constructivist" approaches than those in other schools. Teachers at these schools also were less trusting of students and more skeptical about their abilities. Teachers' beliefs were generally consistent with their practices, even when school poverty level and students' mean achievement levels were statistically controlled.

Teacher Beliefs and Practices in Schools Serving Communities that Differ in Socioeconomic Level

"Constructivist" teaching practices—those that emphasize teaching for understanding, intrinsic motivation, student autonomy and self-direction, and the opportunity for frequent interaction and engagement among students (Cohen, McLaughlin, & Talbert, 1993; Brooks & Brooks, 1993)—have often been recommended for gifted children. Recent research has provided evidence that these are also the most effective teaching practices for children from economically deprived backgrounds (Knapp & Associates, 1995; Knapp, Shields, & Turnbull, 1992; Means, Chelemer, & Knapp, 1991). These practices are opposed, however, to what has been described as the "conventional wisdom" about how to approach education for disadvantaged children (see Knapp and Shields, 1991), and in spite of growing research evidence of the utility and importance of "meaning-oriented" teaching approaches for children of poverty, findings from "Prospects" (Puma, Jones, Rock, & Fernandez, 1993) and other large-scale studies, summarized in "Reinventing Chapter 1" (U. S. Department of Education, 1993) suggest that the conventional wisdom still holds sway. These studies have shown that students in high-poverty as compared with low-poverty schools receive language arts instruction that relies more on basal readers and textbooks and less on literature and trade books; do less creative writing; do less silent reading and more reading aloud in turn; receive less emphasis on analytic concepts in math instruction through problem-solving, word problems, or work on mathematical reasoning; and experience less frequent use of cooperative learning for both reading and math. Data from these studies also show teachers in high poverty schools to be relatively frustrated and dispirited, dissatisfied with their schools, administrators and colleagues, and to feel that they have little influence on school policy.

The "conventional wisdom" about effective practice appears to be grounded in a series of assumptions about the capabilities, learning styles, and means required to motivate children from deprived backgrounds (see Knapp & Shields, 1991). Research on teacher expectations, for example, has indicated that expectations for academic performance are lower for students from low SES backgrounds (Baron, Tom, & Cooper, 1985; Rist, 1970), and that lower teacher expectations are generally associated with less frequent, less positive, and less stimulating teacher behavior toward students (Brophy & Good, 1970, 1974; Cooper, 1979, 1985; Good, 1981, 1982).

Winfield (1986) and Knapp (1995) have investigated the attitudes and beliefs of teachers in high-poverty schools, but teachers' assumptions about students and effective teaching practices have not as yet been systematically examined in previous comparisons of

teachers in low and high poverty schools. The aims of the present study were to make such comparisons, and also to examine the consistency of findings regarding other aspects of teacher orientations, perceptions, and practices with those reported earlier. If attitudes and beliefs influence practice, it might be possible to help teachers to move toward more effective teaching by providing them with opportunities to understand and consider the rationale for using such practices with students from economically disadvantaged backgrounds.

Procedures

Teacher questionnaire and classroom observation data were collected as part of the baseline data collection for a larger study.[1]

Sample

Participants were 476 "regular" education elementary school classroom teachers (grades K-6) in 24 urban and suburban schools in six school districts throughout the country, three on the west coast, one south-central, one southeast, and one northeast. Ninety percent of the teachers were female; they ranged in age from to 21 to 65 (median = 44); ranged from being first-year teachers to having taught for 44 years (median = 18); and had taught at the same school for up to 31 years (median = 4), and in the same district for up to 36 years (median = 8). Fifty percent of the teachers had bachelor's degrees, 39% master's degrees, 10% educational specialist degrees of some sort, and .6% doctorates. Seventy-eight percent were Caucasian, 12% African-American, 7% Hispanic, and 2% Asian.

Measures

Poverty. The percentage of students in a school receiving subsidized lunches was used as the index of poverty. In order to maximize comparability, the grouping levels employed in "Reinventing Chapter 1" (U.S. Department of Education, 1993) were used to divide the schools into low, medium, and high poverty groups: low poverty = 0-19% (7 schools); medium poverty = 20-74% (13 schools); high poverty = 75-100% (4 schools). (Schools in this sample ranged from 2-95%, with the median at 27.5%.)

Schools in the three poverty-level groups also differed with respect to student ethnic background. The average percentages of Caucasian (non-Hispanic) students in the low, medium, and high poverty schools were, respectively, 59%, 42% and 31%. Parallel percentages for African-American students in the three groups were 6%, 22%, and 68%; for Hispanic students, 19%, 27%, and 2%; for Asian and Pacific Islander students, 15%, 6% and 0%; and for Other Non-white students, 3%, 3%, and 0%.

Teacher attitudes and perceptions. A teacher questionnaire, based in part on those used by Midgley, Feldlaufer, and Eccles (1988) and the Center for Research on the Context of Secondary School Teaching (1990), was completed by participating teachers in the spring of

1992. Questionnaires were returned by 89% of the teachers. Scales were constructed from the questionnaire responses with the aid of factor analysis, and, along with some individual items, grouped into four sets.

One set reflected teachers' *educational attitudes and beliefs,* including belief in the importance of teacher authority and student compliance (7 items, alpha= .72), "control ideology" (Deci et al., 1981), skepticism regarding students' learning potential (10 items, alpha= .67), belief in the importance of student self-direction, exploration, collaboration and understanding (9 items, alpha= .78), and trust in students (3 items, alpha= .54).

A second set reflected teachers' *feelings about teaching*, including feeling of efficacy as a teacher (5 items, alpha= .63), enjoyment of teaching (7 items, alpha= .79), and motivation to improve as a teacher (6 items, alpha= .65).

A third set reflected teachers' perceptions of the *school climate*, including their views of the learning environment as stimulating (4 items, alpha= .80), school openness to experimentation and exploration (4 items, alpha= .69), perception of shared educational goals and values (2 items, r = .73), principal supportiveness, accessibility and competence (8 items, alpha= .89), teacher participation in school planning and decision-making (4 items, alpha= .87), faculty collegiality (7 items, alpha= .89), personal collegial work with other teachers (7 items, alpha= .75), perception that colleagues are a valuable resource (3 items, alpha= .66), positive student-teacher relations in the school (4 items, alpha= .73), positive relations among students (6 items, alpha= .89), parent supportiveness and involvement in school activities (5 items, alpha= .85), and parent involvement in school planning (single item).

Classroom observations. Each classroom was observed by four trained observers in separate 90-minute visits throughout the school year. Each visit was divided into a series of four-minute segments and observations were recorded with a series of 3-point ratings (0 = not observed, 1 = minimal frequency or intensity, 2 = more than minimal frequency or intensity) made after each segment. The observers were trained with the aid of videotapes of class sessions, also divided into four-minute segments, that had been criterion-scored by project staff. Another set of videotapes was used periodically during the year, to maintain and assess observer consistency and reliability. Average overall observer agreement with the criterion scores was 84.6%. The observers in each district met every two weeks or so during the year to discuss their scoring of these segments and to raise questions about any discrepancies between their scoring and the criterion scoring; this helped them to maintain commonality in their understanding and use of the system throughout the year.

The observation items were aggregated across all the visits to each class for the full year. The following scales and items representing teacher practices, classroom activities, and student behavior were constructed after initial examinations of inter-item relationships

(primarily using factor analysis): teacher warmth, supportiveness, and personal relations with students (10 items, alpha= .85); teacher irritability, negative behavior (3 items, alpha= .55); teacher emphasis on intrinsic motivation (5 items, alpha= .69); teacher use of extrinsic controls (8 items, alpha= .72); provision for student autonomy (5 items, alpha= .78); student participation in planning (1 item); use of class meetings (1 item); frequency of use of cooperative activities (1 item); teacher encouragement of cooperation (3 items, alpha= .55); active student discussion/emphasis on student thinking (7 items, alpha= .76); displays on walls showing student-made work (3 items, alpha= .53); displays on walls showing graded work or academic comparisons (2 items, r = .16); and active student engagement (6 items, alpha= .83).

Teacher and school characteristics. Data on characteristics that we thought might be linked to the poverty level of the schools, or to teacher behavior or attitudes, were also collected, to enable us to control for their effects. These included teachers' grade taught (with the mean grade used in cases of multi-grade classrooms), ethnicity (white vs. all others),[2] level of education and length of teaching experience, and students' mean reading and math achievement test scores (from achievement tests given to third through sixth graders in the spring of the same school year).

Results

Correlates of Background Factors with School Poverty and the Teacher Scales

Three of the background factors were significantly related to the poverty level of the school. The correlations with achievement scores were substantial (-.70 for reading and -.62 for math, both significant at $p < .001$). Correlations between poverty and the other background factors were -.04 for grade level taught, -.02 for teacher's level of education, .08 for teacher ethnicity, and .14 ($p < .01$) for length of teaching experience.

Relationships between these background factors and the various scales from the teacher questionnaire and the classroom observations were also examined. The two achievement measures were significantly correlated with most of the teacher questionnaire scales (with the highest correlation being .47 ($p < .001$) between mean reading achievement and perceived parent supportiveness). The achievement measures also showed significant correlations with a number of the observation-based measures, most strongly with use of extrinsic control (rs = -.37, -.35, $ps < .001$), provision for student autonomy (rs = .26, .25, $ps < .001$), and encouragement of active discussion and student thinking (rs = .28, .27, $ps < .001$). Correlations with the other background factors were more scattered, but each showed at least one or two significant correlations with the teacher questionnaire scales. Grade level was moderately correlated with several of the observation indices, including active

discussion/emphasis on student thinking ($r = .24$, $p < .001$), use of student-made displays ($r = -.23$, $p < .001$), and student engagement ($r = -.21$, $p < .001$). Because the correlations with achievement, overall, were higher than those with the other background factors, and because the sample size was much smaller when achievement was included (achievement data were only available for about half the sample of classrooms—all in grade three and above), we decided to conduct two sets of analyses—one with grade taught, degree, ethnicity, and length of teaching experience as covariates; the other including the two achievement measures as additional covariates. Because the achievement tests were given only in the upper grades, the full range of grades is not represented in these latter analyses (although grade effects are also controlled within the range that is present).

Relationships Between School Poverty Level and Teacher Attitudes, Practices and Perceptions

These relationships were examined with multivariate analyses of covariance. Scales (and some individual items) derived from the teacher questionnaire and the classroom observations were placed into the sets described above according to content (educational attitudes and beliefs, feelings about teaching, perceived school climate, classroom observations), and two MANCOVAs were conducted with each group: one with four covariates (not including achievement), and one with six covariates (including the achievement measures).[3]

Teachers' educational attitudes and beliefs. Multivariate Fs for school poverty level were 4.78 (10/930; $p < .001$) for the full-sample, four-covariate analysis, and 2.24 (10/392; $p < .05$) for the reduced-sample, six-covariate analysis. Means, standard deviations, and univariate F values are shown in Table 1. Each of these variables was reliably differentiated by school poverty level, and in most cases the differences were maintained when student achievement was controlled. The largest differences, in general, are between the high poverty group and the others, with effect sizes between the high and low groups (the difference in means, divided by the standard deviation of the high poverty group) ranging from .25 to .69. Teachers in the high-poverty schools tended to be more skeptical about student's learning potential (even when actual achievement scores were controlled), to put less stock in "constructivist" approaches to teaching and learning, and to be less trusting of students. The differences in control ideology (in which high scores reflect a willingness to allow students greater autonomy in solving their problems) became nonsignificant when achievement controls were added. They also did so, however, in the reduced-sample, four-covariate analysis, indicating that the difference in this case was due to the reduced sample (possibly the restricted range of grades) rather than these added controls.

Insert Table 1 About Here

Perceived school climate. MANCOVA poverty level effects for the school climate scales were: 4-covariate, full sample analysis, F (24/904) = 17.23, $p < .001$; and reduced sample, 6-covariate analysis, F (24/374) =5.81, $p < .001$. The univariate effects, shown in Table 2, were generally quite strong, with a number of the effect sizes larger than one standard deviation. Teachers generally saw the high-poverty schools as being less pleasant, supportive, stimulating, or innovative, and themselves (and parents) as being less involved in school planning, and parents as being less supportive than in moderate or low-poverty schools. Interestingly, however, there was less difference in attitudes about and reported interaction with other teachers at the schools. All of the significant climate differences were maintained when the achievement controls were added.

Insert Table 2 About Here

Teacher satisfaction. The multivariate poverty level effects for the teacher satisfaction scales were: 4-covariate, full sample analysis, F (10/748) = 3.63, $p < .001$; and reduced sample, 6-covariate analysis, F (10/304) = 2.67, $p < .01$. The univariate effects in the 4-covariate analyses (see Table 3), show that teachers in the high-poverty schools felt less positive about their working conditions and less satisfied with their jobs than those in the other two groups of schools, but generally did not feel less personally motivated or efficacious. None of the differences that were found, however, remained after differences in achievement levels were controlled.

Insert Table 3 About Here

Observed teaching practices. The multivariate poverty level effects for the scales and items derived from the classroom observations were: 4-covariate, full sample analysis, F (26/880) = 7.72 $p < .001$; and reduced sample, 6-covariate analysis, F (26/374) = 3.32, $p < .001$. Univariate analyses, shown in Table 4, indicated that students in high poverty schools experienced more extrinsic control and fewer opportunities for self-direction or participation in classroom planning, had many fewer class meetings, were much less involved in cooperative activities, and had fewer classroom displays showing their work. These

differences were generally maintained when student achievement was controlled, with one major exception: the extrinsic control pattern was reversed, with the level *lowest* in the high poverty schools. Other results showed teachers in high poverty schools to be less warm and supportive (not maintained when achievement was controlled), slightly more irritable (reversed when achievement was controlled), to put less stress on intrinsic motivation, to involve students less actively in discussion and exploration of their thinking, and to have less actively engaged students (neither of the last two were maintained when achievement was controlled). Two of the above effects that disappeared when achievement was controlled—teacher warmth/supportiveness and student engagement—also did so in the four-covariate, reduced sample analysis, indicating that the differences in these cases were due to the sample difference in grade range represented. The use of displays showing graded work or academic competitions showed a significant poverty level effect—with the level lowest in high-poverty schools—only when achievement levels were controlled (although a similar trend was also found with the four-covariate, reduced sample analysis).[4]

Insert Table 4 About Here

Teacher Attitudes/Perceptions and Classroom Practices

Correlations between the teachers' educational attitudes and perceptions and their observed classroom practices are shown in Table 5. In order to help assess the degree to which the relationships between these two sets of variables are independent of either the poverty level of the school or the achievement level of the students, we present three sets of correlations: zero-order correlations for the full sample, and two sets of partial correlations, one with school poverty level controlled, the other with mean reading and math achievement scores controlled (the latter limited to classrooms with students in third grade and above).

Insert Table 5 About Here

Although the correlations shown in the table are generally low in magnitude, the patterns of relationships seem fairly clear and consistent. Teachers' emphasis on authority and student compliance, and their expressed skepticism about students' learning potential, generally related positively to the use of extrinsic control, teacher irritability, and the use of competitive displays, and negatively to teacher warmth and supportiveness, emphasis on intrinsic motivation, provision for student autonomy, student participation in planning, cooperative activity, and student-made displays. The reverse pattern, in general, was shown with teachers' control ideology, belief in the importance of student self direction and

exploration (i.e., a "constructivist" orientation), and trust in students—positive relations with measures reflecting student autonomy and participation in planning, use of cooperative activities, and teacher supportiveness, negative relations with use of extrinsic controls and academic competitions. These patterns can be seen most clearly in the correlations with provision for student autonomy and with the cooperative activity measures.

The two sets of partial correlations show patterns of relationships that are very similar to that shown with the zero-order correlations, indicating that these relationships are generally independent of either the schools' poverty levels or the level of student achievement. (A parallel set of partial correlation analyses was conducted with poverty level, mean achievement, and the other background factors all controlled, and also produced very similar results.)

In order to summarize these relationships, the teacher practices scales were combined into a single overall index (excluding student engagement which is not a direct representation of a teacher practice), with scores on the two "negative" scales (irritability, use of extrinsic controls) reversed. This combined score was used as the dependent variable in two multiple regression analyses. The first was a three-stage analysis with poverty level entered at the first stage, four background factors (not including achievement) entered at the second stage, and the teacher attitude scales entered at the third stage. Each of the stages produced a significant contribution to the multiple correlation, with an overall R^2 (adjusted) of .27. After controlling for poverty level and the other background factors, two of the teacher attitude scales contributed significantly to the overall effect—belief in the importance of teacher authority and student compliance ($\beta = -.20$, $p < .001$), and "constructivist" beliefs ($\beta = .12$, $p < .02$). The second analysis added the achievement scores as the third stage of predictors, followed by the teacher attitude scales. The results were similar: After controlling for the other predictors, the set of teacher attitudes made a highly significant contribution, with specific significant effects for belief in the importance of teacher authority and student compliance ($\beta = -.25$, $p < .01$), and "constructivist" beliefs ($\beta = .13$, $p < .07$).

Discussion

Although educators and educational researchers have been concerned for many years about the education of children from economically deprived backgrounds, increasing attention has been paid, since the publication of "Savage Inequalities" (Kozol, 1991), to the status of education in poor communities as compared with that in more affluent ones. The present findings generally confirm those of earlier studies in showing that students in poor communities generally receive less engaging kinds of education (such as cooperative learning) and that teachers in such schools see the school climate as less positive and

stimulating and themselves as having less influence. The present study provides additional information about classroom practices and atmospheres and teacher attitudes and perceptions, and the linkages between them.

It is interesting that the largest differences in the classrooms were not related to teacher demeanor or relationships with students, but rather with the amount of student activity, interaction and self-direction allowed and promoted—as shown by such measures as external control, student autonomy, student engagement, cooperative activity, and evidence of student-made displays. Similarly, the teacher attitudes that showed the strongest differences related to their beliefs about the importance of authority and control and their assumptions about the learning process and student capabilities (emphasis on teacher control and student compliance, "constructivist" beliefs, beliefs about student potential, trust in students). Teachers in high poverty schools generally keep much tighter control on students, afford them less autonomy and less opportunity to interact with one another. Yet just such opportunity for meaningful participation has been shown to be an important correlate of students' attachment to school and academic motivation in both high and low poverty settings (Battistich, Solomon, Kim, Watson, & Schaps, 1995; Kim, Solomon & Roberts, 1995).

That the activities and practices that differentiate the different groups of classrooms are related to the teacher attitudes that also do so is shown by the correlations between the two groups of measures which, although low in magnitude, show consistent and meaningful patterns of relationships; teacher attitudes and beliefs relate to the practices and behaviors that are most consistent with them, and these relationships are maintained when school poverty level and student achievement level are controlled. Regression analyses predicting an overall index of teacher practices from the teacher attitudes suggested that teachers' attitudes concerning authority and control and their "constructivist" beliefs were particularly important correlates of their classroom practices.

Most of the obtained differences between school poverty levels in teacher attitudes and perceptions were also maintained when student achievement levels were controlled. This seems to suggest that expectations are exerting a powerful influence on attitudes. With the observed classroom practices, however, there are relatively more instances where the differences disappear—or even reverse—when achievement is controlled. The variables that are so affected include those relating to emotional tone (warmth/supportiveness, irritability), extrinsic control (but not provision for autonomy), and student stimulation (engagement, emphasis on thinking). In other observed areas, large differences are maintained even after controlling for achievement (cooperative activity, class meetings, student-made displays). While we can't account for the particular pattern of relationships that are affected or modified by the student achievement levels, the fact that they have greater effect on actual practices

than on beliefs or attitudes suggests that practices may be more sensitive to the actual situation of the particular classroom.

The approaches to teaching that were shown in this study to be least in evidence in high-poverty classrooms are the very ones that Knapp and his associates (Knapp & Associates, 1995; Knapp, Shields, and Turnbull, 1992) found to be most effective with disadvantaged children. This presents both a paradox and an opportunity. The challenge involved in helping teachers move to new modes of teaching—a difficult and slow process in general—may be particularly difficult with teachers in these circumstances. Clear examples of the effectiveness of autonomy-enhancing and meaning-centered approaches to teaching with disadvantaged children—and supportive settings that enable teachers to experiment with their use—seem essential.

It is probably fruitless to try to determine the relative primacy of attitudes and behavior. In all probability, there is an evolving complex of attitudes and related practices that develop together and reinforce one another. We would therefore suggest that more teachers could be helped to move toward these student-engaging approaches by providing them with opportunities to come to an understanding of the conceptual underpinnings of these approaches as well as their mechanics.

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Footnotes

[1] An intervention was implemented in 12 schools, with another 12 serving as a comparison group. The baseline data used in the present study were collected during the school year before the start of the intervention. The intervention schools were selected on the basis of the principals' and teachers' expressed interest in participating in the intervention and their judged capability of carrying it out, with the proviso that the set of schools also serve communities representing a broad range of socioeconomic levels; the comparison schools were closely matched to the comparison schools in terms of student demographic characteristics. All regular classroom teachers in each of these schools participated in the research.

[2] Because the vast majority of teachers (78%) were classified as "white," a white vs. all others dichotomy was the only feasible grouping.

[3] To determine whether any differences between the four- and six-covariate analyses might be attributable to sample differences, an additional set of MANCOVAs was conducted with four covariates but using the same sample as the analyses with six covariates. The results in most cases were quite similar to those obtained with the full-sample four-covariate analyses. The few instances in which the results were more similar to those obtained with the six-covariate analysis will be indicated in the text.

[4] A parallel set of analyses was done with scales derived from the teacher questionnaire that represented teachers' descriptions of their own practices. The results were quite consistent with those shown with the classroom observations.

Table 1

Teacher Attitudes About Education: Adjusted Means by School Poverty Level

	No. of Covariates	Poverty Level Low (N=191) (N=75)	Moderate (N=201) (N=92)	High (N=84) (N=42)	Planned Contrasts	F	High vs Low d
Belief in importance of teacher authority, student compliance	4	2.37 (.62)	2.36 (.58)	2.58 (.70)	abd	4.19*	.30
	6	2.41 (.60)	2.38 (.59)	2.64 (.75)		1.77	.31
Scepticism regarding students' learning potential	4	2.37 (.47)	2.45 (.45)	2.62 (.59)	abd	8.25***	.42
	6	2.34 (.47)	2.45 (.44)	2.72 (.55)	abd	4.85**	.69
Belief in importance of student self-direction, exploration, collaboration, & understanding	4	4.14 (.46)	4.14 (.46)	3.92 (.45)	abd	8.35***	.49
	6	4.16 (.43)	4.15 (.41)	3.92 (.42)	abd	3.18*	.57
Trust in students	4	3.42 (.69)	3.24 (.66)	2.92 (.80)	abcd	14.93***	.63
	6	3.53 (.63)	3.33 (.71)	2.87 (.86)	abd	6.86***	.76
Control ideology (emphasis on student autonomy)	4	7.18 (3.46)	6.75 (2.95)	6.05 (3.17)	ad	3.76*	.36
	6	6.75 (3.37)	6.69 (2.96)	5.97 (3.15)		0.58	.25

Four-covariate analyses controlled for teachers' grade level, ethnicity, education, and length of teaching experience. Six-covariates analyses controlled for the above four teacher variables, plus two student achievement test scores (class means on normal curve equivalent (NCE) scores for math and reading). Standard deviations are shown in parentheses. d is the difference between the high and low poverty group means, divided by the standard deviation for the high poverty group.

[a]Planned contrast (High vs. Low poverty) p<.05; [b]Planned contrast (Moderate Poverty vs. High Poverty) p<.05; [c]Planned contrast (Low Poverty vs. Moderate Poverty) p<.05; [d]Planned contrast (Low & Moderate Poverty vs. High Poverty) p<.05.

+p<.10; * p<.05; **p<.01; *** p<.001.

Table 2

Teacher Perceptions of School Climate: Adjusted Means by School Poverty Level

	No. of Covariates	Poverty Level Low (N=189) / (N=75)	Moderate (N=198) / (N=90)	High (N=83) / (N=42)	Planned Contrasts	F	High vs Low d
Positive relations among students	4	3.85 (.61)	3.41 (.69)	2.41 (.77)	abcd	131.41***	.73
	6	3.81 (.64)	3.39 (.68)	2.36 (.73)	abcd	37.34***	.75
Principal supportiveness, accessibility, & competence	4	4.41 (.50)	4.03 (.75)	3.86 (.81)	abcd	24.61***	.68
	6	4.25 (.45)	3.91 (.84)	3.92 (.90)	ac	9.46***	.37
Positive student-teacher relations	4	4.18 (.48)	3.85 (.57)	3.32 (.76)	abcd	64.22***	1.13
	6	4.12 (.48)	3.84 (.51)	3.20 (.67)	abcd	23.41***	1.37
Stimulating learning environment	4	4.26 (.52)	4.05 (.65)	3.67 (.71)	abcd	26.38***	.83
	6	4.21 (.54)	4.03 (.69)	3.62 (.69)	abd	6.60**	.83
Teacher participation in school planning / decision-making	4	4.05 (.77)	3.81 (.80)	3.54 (.94)	abcd	11.90***	.54
	6	4.12 (.73)	3.83 (.85)	3.64 (.99)	ac	3.32*	.48
Shared educational goals & values	4	3.99 (.77)	3.76 (.80)	3.47 (.94)	abcd	13.05***	.55
	6	4.02 (.69)	3.77 (.81)	3.42 (.82)	abcd	5.10**	.73
Openness to experimentation, exploration	4	3.68 (.77)	3.49 (.80)	3.02 (.94)	abcd	32.43***	.70
	6	3.78 (.56)	3.50 (.62)	2.95 (.72)	abcd	13.66***	1.15

Table 2 (Continued)

	No. of	Poverty Level			Planned		High vs
	Covariates	Low	Medium	High	Contrasts	F	Low d
Collegial work with other teachers	4	3.23 (.70)	3.22 (.79)	3.37 (.77)		1.42	.18
	6	3.29 (.71)	3.23 (.73)	3.39 (.73)		0.58	.14
Colleagues as valuable resource	4	4.24 (.66)	4.26 (.70)	4.09 (.76)	d	1.96	.20
	6	4.19 (.66)	4.29 (.67)	4.04 (.85)		1.46	.18
Faculty collegiality	4	3.94 (.67)	3.76 (.79)	3.68 (.82)	ac	4.34*	.32
	6	4.01 (.68)	3.79 (.78)	3.49 (.87)	ad	3.91*	.60
Planning school policy with parents	4	3.03 (1.28)	2.68 (1.20)	2.27 (1.31)	abcd	10.95***	.58
	6	3.14 (1.22)	2.84 (1.22)	2.24 (1.19)	abd	4.37*	.76
Parent supportiveness, involvement	4	4.04 (.60)	3.48 (.68)	2.55 (.80)	abcd	145.87***	1.86
	6	3.89 (.59)	3.45 (.63)	2.66 (.73)	abcd	32.18***	1.68

Four-covariate analyses controlled for teachers' grade level, ethnicity, education, and length of teaching experience. Six-covariates analyses controlled for the above four teacher variables, plus two student achievement test scores (class means on normal curve equivalent (NCE) scores for math and reading). Standard deviations are shown in parentheses. d is the difference between the high and low poverty group means, divided by the standard deviation for the high poverty group.

[a]Planned contrast (High vs. Low poverty) p<.05; [b]Planned contrast (Moderate Poverty vs. High Poverty) p<.05; [c]Planned contrast (Low Poverty vs. Moderate Poverty) p<.05; [d]Planned contrast (Low & Moderate Poverty vs. High Poverty) p<.05.

+p<.10; * p<.05; **p<.01; *** p<.001.

Table 3

Teacher Satisfaction: Adjusted Means by Poverty Level

	No. of Covariates	Poverty Level Low (N=154)	Moderate (N=161)	High (N=70)	Planned Contrasts	F	High vs Low d
	4						
	6			(N=72)	(N=90)	(N=41)	
Assessment of current working conditions	4	4.17 (1.07)	3.67 (1.29)	3.75 (1.36)	ac	6.89***	.31
	6	3.75 (1.10)	3.43 (1.42)	4.42 (1.38)	bd	5.14**	.49
Would become a teacher again?	4	1.97 (1.00)	1.88 (.97)	2.05 (1.07)		0.78	.07
	6	2.14 (1.14)	1.89 (.93)	2.03 (1.11)		0.88	.10
Satisfaction with job	4	3.99 (.45)	3.93 (.61)	3.73 (.72)	abd	4.78***	.36
	6	3.85 (.51)	3.96 (.62)	3.69 (.74)		1.84	.22
Feelings of success, efficacy as a teacher	4	4.06 (.53)	3.97 (.52)	3.88 (.61)	a	2.80+	.30
	6	3.97 (.58)	3.98 (.52)	3.91 (.66)		0.11	.09
Enjoyment of teaching	4	4.32 (.56)	4.18 (.66)	3.91 (.71)	abd	9.67***	.58
	6	4.25 (.58)	4.20 (.59)	3.96 (.74)		1.44	.39

Four-covariate analyses controlled for teachers' grade level, ethnicity, education, and length of teaching experience. Six-covariates analyses controlled for the above four teacher variables, plus two student achievement test scores (class means on normal curve equivalent (NCE) scores for math and reading). Standard deviations are shown in parentheses. d is the difference between the high and low poverty group means, divided by the standard deviation for the high poverty group.

[a]Planned contrast (High vs. Low poverty) p<.05; [b]Planned contrast (Moderate Poverty vs. High Poverty) p<.05; [c]Planned contrast (Low Poverty vs. Moderate Poverty) p<.05; [d]Planned contrast (Low & Moderate Poverty vs. High Poverty) p<.05.

+p<.10; * p<.05; **p<.01; *** p<.001.

Table 4

Classroom Practices - Observations: Adjusted Means by Poverty Level

	No. of Covariates	Poverty Level Low (N=179) (N=72)	Moderate (N=198) (N=90)	High (N=82) (N=41)	Planned Contrasts	F	High vs Low d
Teacher warmth, supportiveness, personal relations with students	4	.50 (.20)	.50 (.21)	.43 (.20)	abd	4.48*	.35
	6	.43 (.17)	.45 (.21)	.47 (.17)		.49	.24
Teacher irritability, negative behavior	4	.08 (.07)	.09 (.10)	.10 (.10)	a	2.68+	.20
	6	.11 (.07)	.10 (.11)	.05 (.08)	abd	3.22*	.75
Teacher emphasis on intrinsic motivation	4	.10 (.07)	.07 (.07)	.04 (.06)	abcd	21.72***	1.00
	6	.10 (.08)	.07 (.08)	.07 (.07)	c	2.98+	.43
Teacher use of extrinsic controls	4	.56 (.24)	.50 (.23)	.63 (.21)	abcd	10.45***	.33
	6	.62 (.24)	.53 (.23)	.49 (.23)	ac	4.52*	.57
Provision for student autonomy	4	.69 (.16)	.66 (.14)	.53 (.14)	abd	32.47***	1.14
	6	.67 (.15)	.64 (.14)	.54 (.15)	abd	6.17**	.87
Student participation in planning	4	.05 (.08)	.03 (.06)	.01 (.03)	abcd	15.54***	1.33
	6	.05 (.09)	.03 (.06)	.01 (.02)	a	2.37+	2.00
% of observed segments involving class meetings	4	1.60 (3.57)	2.30 (5.36)	.30 (1.30)	abd	6.54**	1.00
	6	1.92 (4.09)	1.78 (3.67)	.09 (.92)	abd	2.56+	1.99

Table 4 (Continued)

	No. of	Poverty Level			Planned		High vs
	Covariates	Low	Medium	High	Contrasts	F	Low d
% of observed segments involving	4	10.55 (12.29)	11.38 (11.50)	2.75 (4.97)	abd	20.55***	1.57
structured cooperative activity	6	11.84 (13.95)	12.75 (12.36)	3.48 (4.92)	abd	6.66**	1.70
Teacher encouragement of cooperation	4	.19 (.13)	.17 (.13)	.09 (.08)	abd	18.88***	1.25
	6	.21 (.15)	.18 (.14)	.09 (.08)	abd	7.57***	1.38
Active student discussion/emphasis on student thinking	4	.18 (.10)	.19 (.10)	.14 (.08)	abd	7.35***	.75
	6	.17 (.11)	.21 (.12)	.21 (.06)	c	2.13	.67
Displays with student-made work	4	.77 (.35)	.77 (.36)	.45 (.30)	abd	34.30***	1.07
	6	.63 (.36)	.73 (.37)	.35 (.27)	abd	12.77***	1.04
Displays with graded work or academic comparisons	4	.54 (.44)	.58 (.47)	.56 (.46)		.37	.04
	6	.67 (.43)	.71 (.45)	.43 (.48)	abd	4.16*	.50
Active student engagement	4	1.33 (.21)	1.34 (.21)	1.21 (.25)	abd	13.03***	.48
	6	1.24 (.20)	1.27 (.20)	1.27 (.23)		.37	.13

Four-covariate analyses controlled for teachers' grade level, ethnicity, education, and length of teaching experience. Six-covariates analyses controlled for the above four teacher variables, plus two student achievement test scores (class means on normal curve equivalent (NCE) scores for math and reading). Standard deviations are shown in parentheses. d is the difference between the high and low poverty group means, divided by the standard deviation for the high poverty group.

[a]Planned contrast (High vs. Low poverty) $p<.05$; [b]Planned contrast (Moderate Poverty vs. High Poverty) $p<.05$; [c]Planned contrast (Low Poverty vs. Moderate Poverty) $p<.05$; [d]Planned contrast (Low & Moderate Poverty vs. High Poverty) $p<.05$.

+$p<.10$; * $p<.05$; **$p<.01$; *** $p<.001$.

Table 5

Correlations Between Teacher Attitudes and Classroom Practices

		Teacher Attitudes and Perceptions				
		Teacher authority & student compliance	Control ideology	Skepticism re students' learning potential	Importance of self-direction, exploration	Trust in students
Observations						
Teacher warmth, supportiveness, and personal relations with students	Total	-.24***	.11*	-.16***	.20***	.10*
	Partial A	-.22***	.09	-.14**	.18***	.07
	Partial B	-.23***	.10	-.14*	.18**	.07
Teacher irritability, negative behavior	Total	.13**	-.04	.09*	-.11*	-.08
	Partial A	.11*	-.01	.07	-.08	-.04
	Partial B	.12	-.02	.06	-.07	-.03
Teacher emphasis on intrinsic motivation	Total	-.13**	.04	-.14**	.14**	.10*
	Partial A	-.10*	-.01	-.11*	.11*	.06
	Partial B	-.12	.02	-.12	.12	.07
Teacher use of extrinsic controls	Total	.20***	.16***	.12**	.12**	-.13**
	Partial A	.18***	-.14**	.10*	-.10*	-.10*
	Partial B	.19**	-.14*	.07	-.07	-.07

Table 5 (Continued)

		Teacher authority & student compliance	Control ideology	Skepticism re students' learning potential	Importance of self-direction, exploration	Trust in students
Provision for student autonomy	Total	-.27***	.18***	-.21***	.20***	.20***
	Partial A	-.24***	.13**	-.18***	.16***	.16***
	Partial B	-.26***	.16*	-.18**	.16*	.16*
Student participation in planning	Total	-.17***	.13**	-.10*	.16***	.13**
	Partial A	-.14**	.09	-.07	.12**	.09
	Partial B	-.16*	.12	-.08	.13*	.10
Use of class meetings	Total	-.10*	.05	-.09	.14**	.08
	Partial A	-.10*	.04	-.08	.14**	.08
	Partial B	-.10	.04	-.08	.14*	.07
Frequency of use of cooperative activities	Total	-.17***	.14***	-.18***	.18***	.12**
	Partial A	-.15**	.12**	-.16***	.16***	.10*
	Partial B	-.17*	.14*	-.16*	.16*	.11
Teacher encouragement of cooperation	Total	-.19***	.13**	-.20***	.23***	.22***
	Partial A	-.17***	.10	-.18***	.21***	.19***
	Partial B	-.19**	.12	-.18**	.21**	.20**
Active student discussion/emphasis on student thinking	Total	-.15***	.08	-.06	.14**	.05
	Partial A	-.13**	.04	-.03	.11*	.01
	Partial B	-.14*	.06	-.01	.10	.00

Table 5 (Continued)

		Teacher authority & student compliance	Control ideology	Skepticism re students' learning potential	Importance of self-direction, exploration	Trust in students
Displays on walls showing student-made work	Total	-.21***	.10*	-.22***	.23***	.12*
	Partial A	-.18***	.06	-.20***	.20***	.07
	Partial B	-.21**	.09	-.20**	.21**	.09
Displays on walls showing graded work or academic comparisons	Total	.14**	-.16***	.08	-.08	-.04
	Partial A	.14**	-.15***	.07	-.07	-.03
	Partial B	.14*	-.15*	.07	-.07	-.03
Active student engagement	Total	-.10*	.01	-.09	.10*	.15***
	Partial A	-.07	-.03	-.06	.07	.12**
	Partial B	-.08	-.02	-.05	.06	.11

Note: Two sets of partial correlations are included in this table. "Partial A" correlations control for school poverty level; "Partial B" correlations control for mean reading and mathematics achievement scores (and are limited to third through sixth grade classrooms). ns: total sample - 467; Partial A - 453; Partial B - 199.

* $p < .05$; ** $p < .01$; *** $p < .001$